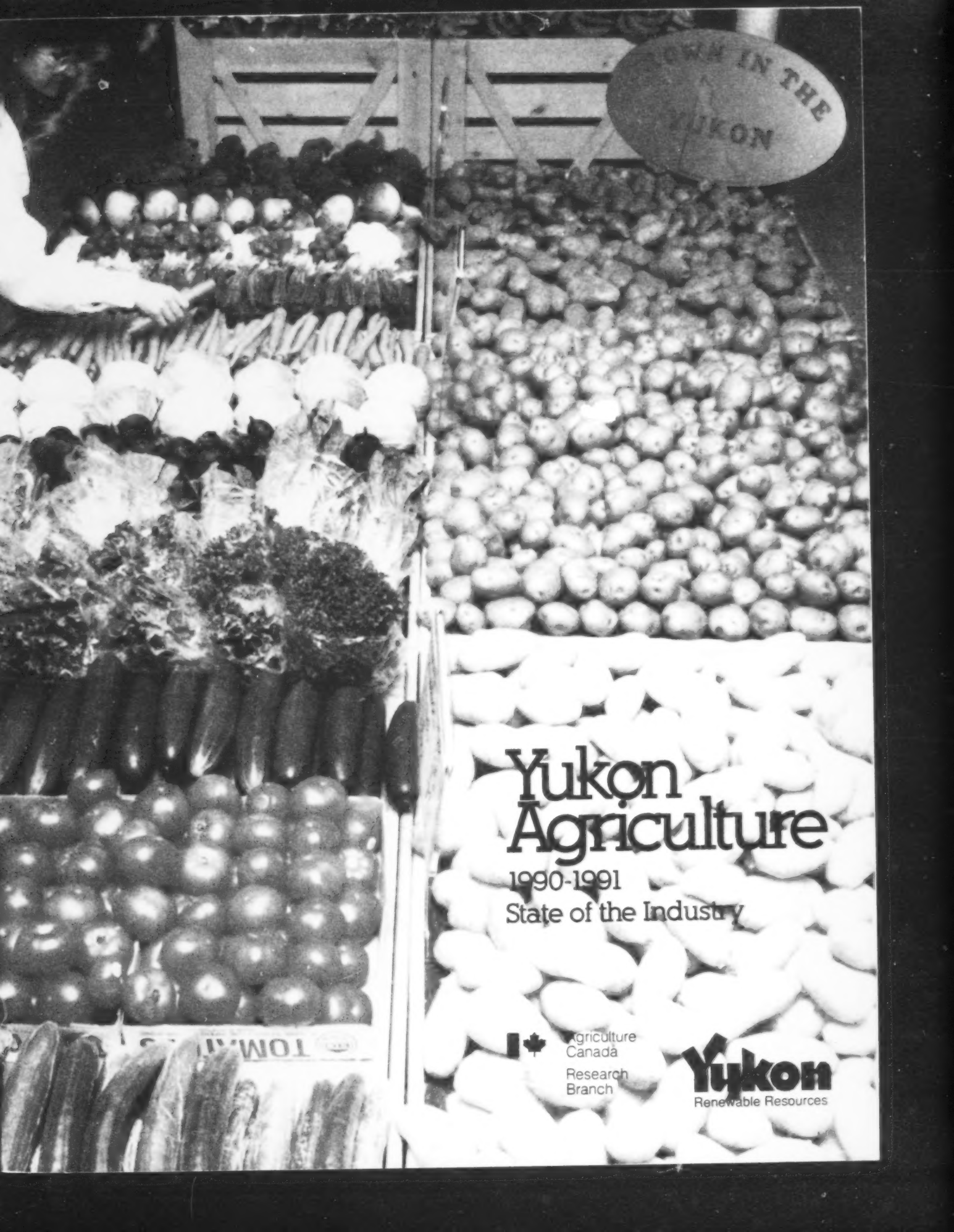




GROWN IN THE
YUKON

Yukon Agriculture

1990-1991

State of the Industry



Agriculture
Canada
Research
Branch

Yukon
Renewable Resources

YUKON AGRICULTURE 1990-1991

STATE OF THE INDUSTRY

Prepared by

M.A. Ames¹, D.B. Beckman¹, C.A.S. Smith²

For copies of this report please contact:

Agriculture Branch
Department of Renewable Resources
Government of the Yukon
Box 2703
Whitehorse, Yukon
Y1A 2C6

Phone: (403) 668-5838

Fax : (403) 668-3955

¹Yukon Agriculture, Yukon Department of Renewable Resources

²Yukon Soil Survey Unit, Agriculture Canada

Agriculture Development Series Report No. 8. Agriculture Canada Land Research Centre, Box 2703, Whitehorse, Yukon. August 1992

About the Cover:

Marketing of Yukon grown produce in the local stores is on the rise. Here, Super Valu provides space for fresh local produce.

TABLE OF CONTENTS

	Page
Acknowledgements	iii
List of Figures	iv
List of Tables	v
Summary	vi
1.0 INTRODUCTION - A New Decade	1
2.0 YUKON AGRICULTURE - Current Status	2
3.0 GOVERNMENT INITIATIVES	2
3.1 AGRICULTURE BRANCH ACTIVITIES	2
3.1.1 The Staff	2
3.1.2 Research Projects	3
3.1.3 Extension Services	6
3.1.4 Policy and Regulation Development	6
3.2 AGRICULTURAL PLANNING ADVISORY COMMITTEE	8
3.3 AGRICULTURE CANADA	9
3.3.1 Research Branch - Yukon Soil Survey Unit	9
3.3.2 The Agri-Food Development Branch	11
3.3.3 Prairie Farm Rehabilitation Administration	11
3.4 FARM CREDIT CORPORATION	11
3.5 ECONOMIC DEVELOPMENT AGREEMENT	11
3.5.1 Overview of Projects	12
3.5.2 Summary	12
4.0 PRIVATE AGRICULTURAL INITIATIVES	14
4.1 YUKON AGRICULTURAL ASSOCIATION	14
4.2 4-H YUKON	16
4.3 GAME GROWERS ASSOCIATION OF YUKON	17
4.4 ORGANIC GROWERS ASSOCIATION	17

5.0	AGRICULTURAL LAND PROGRAMS	18
5.1	AGRICULTURAL LAND	18
5.2	GRAZING LEASES	19
5.2.1	Range Improvement	20
6.0	MARKETING	21
6.1	BACKGROUND	21
6.2	WHAT WE HAVE	22
6.3	WHAT WE NEED	23
6.4	HOW TO GET THERE	23
6.5	SUMMARY	23
7.0	A MEDIA PERSPECTIVE	25
8.0	AGRICULTURAL CENSUS SUMMARY	26
8.1	FEDERAL CENSUS RESULTS	27
APPENDIX I	Monthly Weather Review 1990	30
APPENDIX II	Monthly Weather Review 1990	33
APPENDIX III	Publications on Yukon Agriculture	36
APPENDIX IV	Yukon Agricultural Contacts	37

ACKNOWLEDGEMENTS

The authors would like to thank contributors from government agencies and private groups who provided information on their activities. In particular:

Rod Dlugas	Agri-Food Development Branch, Agriculture Canada, Edmonton
Dale Cassidy	Farm Credit Corporation, Edmonton
Gerry Guy	Prairie Farm Rehabilitation Administration, Calgary
Terry Sewell	Economic Policy Planning and Research Branch, Department of Economic Development, Government of the Yukon
Anne Hargrave	Lands Branch, Department of Community and Transportation Services, Government of the Yukon
Steve Smyth	Policy and Planning Branch, Department of Renewable Resources, Government of the Yukon
Michael White	Agriculture Branch, Department of Renewable Resources, Government of the Yukon
Robert Johansen	Agriculture Branch, Department of Renewable Resources, Government of the Yukon
Rachael Lewis	Yukon Agricultural Association
Joyce Scott	Yukon Agricultural Association
Kathy Bisset	Yukon Agricultural Association
Clara Sharp	4-H, Whitehorse
Shirley Ford	Yukon Game Growers Association, Whitehorse

Recipients of Economic Development Agreement funding were also helpful in providing information on their projects.

Editing was provided by both the Department of Renewable Resources and the Executive Council Office.

Word processing of this report was completed by Mary Lynn Drul of the Agriculture Branch, Department of Renewable Resources.

LIST OF FIGURES

		Page
Figure 1	Cascade Oats in Branch Test Plots.	4
Figure 2	Soil Conservation Project	10
Figure 3	4-H Riding Lesson	16
Figure 4	Typical Yukon Grazing Lease.	20
Figure 5	Yukon Grown Symbol.	24

LIST OF TABLES

		Page
Table 1	Summary of Branch Activities	3
Table 2	Agricultural Projects Funded by EDA 1990-1991	14
Table 3	Media Coverage Relating to Yukon Agriculture.	26
Table 4	1986 and 1991 Federal Agricultural Census Highlights . . .	27
Table 5	1990 Rounded Average Monthly Temperatures (degrees C). .	32
Table 6	1990 Rounded Average Monthly Precipitation (mm).	32
Table 7	1991 Rounded Average Monthly Temperatures (degrees C). .	35
Table 8	1991 Rounded Average Monthly Precipitation (mm).	35

SUMMARY

This report summarizes Yukon agricultural activity in 1990 and 1991. Although agriculture in the Yukon continues to be a marginal prospect, the past two years have seen significant growth in the industry.

The industry remains focused on import substitution. The long term goal is to replace 25 percent of imported agricultural products with locally produced products. The industry has had its greatest success in replacing imported forages. But horticultural and cereal production is also on the rise. The total annual value of Yukon agricultural products is estimated at \$3.5 million.

The Yukon Agriculture Branch now employs three full time staff, two auxillary staff and occasional seasonal help. The branch's primary mandate is to provide extension services to Yukon farmers. Its operating and maintenance budget increased from \$333,200 in the 1990-91 fiscal year to \$381,600 in 1991-92. The new Economic Development Agreement (EDA) has allocated \$9.0 million over a five year period to the Renewable Resources Sub-agreement. Agricultural project proposals fall under this sub-agreement.

During the eighties most of the development energies were directed at increasing production and establishing infrastructure. The nineties will continue with these trends but should also delve into the question of marketing.

The Federal Agricultural Census, conducted in 1991, showed 197% increase in the number of farms and a 41% increase in the area under cultivation.

1.0 INTRODUCTION

The 1990-1991 State of the Industry report maintains the basic format of earlier reports in the series. It covers government and private initiatives as well as Economic Development Agreement projects. It also provides an update on land programs, an overview of marketing, a perspective on media coverage and a weather summary.

Highlights of 1990-1991 include:

- * Three-year Soil Conservation Program begun in 1990
- * Yukon Agriculture Policy approved by Cabinet in 1991
- * Yukon Agricultural census conducted in 1991-92
- * Abattoir plans continued
- * Management of Yukon Rangelands published
- * Circumpolar Agricultural Conference planned for 1992

2.0 YUKON AGRICULTURE - CURRENT STATUS

The goal of the Yukon agriculture industry is to replace 25 percent of imported foodstuffs with local products. Both the production and marketing aspects of the industry will need further development if we are to meet this goal.

The past two years have seen the capping of the production work that was begun in the 1980s. The Farm Credit Corporation (FCC) and some banks have shown a new willingness to lend to Yukon agricultural ventures. Water and irrigation projects have been supported by the Prairie Farm Rehabilitation Administration (PFRA) and many new irrigation systems are in place. A seed cleaning operation is also in the process of being established.

Also over the last two years, a tremendous amount of research and demonstration work has taken place in both private and government sectors. Much of this research has been done through the New Crop Development Program (NCDP), with the Yukon Crop Development Program (YCDP) which replaced the NCDP and on the test plots developed by the Agriculture Branch. The general research goal has been to identify preferred varieties and cultural methods for forage, cereal and horticultural production.

Infrastructure and marketing are the links between the current status of the industry and its long term goal. Time and money are needed to develop both. The proposed abattoir is a good example. It will stimulate the production of locally produced meats and the forages and cereals needed to feed the increased livestock numbers (see Section 3.1.4). The abattoir is now awaiting final approval for financing and site location. The next necessary piece of infrastructure is a vegetable storage facility. It would give the horticultural industry a tremendous boost. Local produce would be available almost year round, reducing our dependence on imported products.

The marketing of Yukon produce is the next important step. A great deal of preliminary work has already been done. Existing literature on the industry has been compiled and a Yukon agricultural census is being completed (see Section 8.0). A weekly farmer's market is sponsored by the Yukon Agriculture

Association in the spring and summer. The farmer's market is the only outlet for Yukon produce other than direct sales through the farm gate, local stores, or consignment. Many people have expressed an interest in organizing a local agricultural fair to provide another outlet for products and to boost the agricultural and tourism industries.

It is hoped that a strong marketing and infrastructure network will be completed over the next decade (see Section 6.0)

3.0 GOVERNMENT INITIATIVES

3.1 AGRICULTURE BRANCH ACTIVITIES

3.1.1 The Staff

The Agriculture Branch employs three permanent full-time staff: a director, an agriculture development officer and a secretary. It also employs two auxiliary staff: an agrologist and a grazing co-ordinator.

The director is responsible for the overall management and administration of the branch. These duties include developing policy and regulations, managing finances and budgets, administering extension programs, supervising staff, and meeting the public in the office and on the farm. The Agriculture Branch has had two directors since it was created in 1986.

The branch operating and maintenance (O&M) budget increased by 14 percent from \$333,000 in 1989-90 to \$381,000 in 1990-91. Capital budgets of \$101,493 in 1989-90 and \$97,481 in 1990-91 supported the forage productivity study.

The agriculture development officer is responsible for: inspections related to land applications, extension work with farmers and as a liaison with the Farm Credit Corporation (FCC). This position is also responsible for coordinating the Canada Plan Service (CPS) for the Yukon and meeting branch commitments under the Pounds Act and the Animal Protection Act.

The agrologist designs, maintains and harvests various research plots throughout the Yukon. This person also participates in extension duties and produces the quarterly InFARMatIon bulletin. The agrologist chairs the Economic Development Agreement Technical Advisory Board and sits on the Library Committee, the Climate Committee and Geographic Information Systems Committee.

In 1990 the grazing co-ordinator completed a three-year inventory of Yukon's grazing lands. Since then the co-ordinator has been responsible for evaluating existing and proposed grazing agreements. This position is also responsible for planning range improvement programs which are now at a preliminary stage.

The branch has kept weekly time sheets outlining the amount of time spent on various activities since January, 1991 (Table 1.)

Table 1.	Summary of Branch Activities
Activity	Percentage of Staff Time
Administration	28
Extension services for farmers	24
Inspections and regulation	12
Land issues and land claims	7
Research and demonstration	7
Travel time	7
Policy and regulation development	5
YAA/APAC meetings	3
Marketing and infrastructure planning	3
Economic development	2
Circumpolar conference development	2

Approximately 220 farm visits were made and 440 office calls were handled in 1991.

3.1.2 Research Projects

a) Test Plots

A test plot site was set up near Whitehorse in 1988 to evaluate cereals, forages and horticultural crops and to look at methods of soil improvement. This sheltered, irrigated site with computerized climate data has provided valuable information for agricultural staff and Yukon farmers. In 1990 work was expanded to include larger blocks utilizing the species that had proved most promising in the varietal and replicated trials (Figure 1). Results are published in the InFARmation newsletter and in an annual summary titled Yukon Agriculture Research and Demonstration Report.

b) Range Productivity Study

A three-year inventory and productivity study of Yukon rangelands was completed in 1990. This work was done by the grazing coordinator in conjunction with Western Rangelands Consultants Ltd., Dr. A.W. Bailey and M.G. Willoughby. The study and inventory results were published in a manual titled Management of Yukon Rangelands.



Figure 1. Cascade Oats in Branch Test Plots

c) Canada-Yukon Soil Conservation Initiative

This is a three-year program ending on March 31, 1993. It is funded jointly between the federal and the Yukon governments and is aimed at improving the condition of marginal agricultural lands and preventing further degradation of productive lands. The program has three components: research, farmer incentive and education.

The research component has supported tests to determine how agronomic species will grow and produce on different levels of soil salinity.

The incentives component has provided financial help to encourage farmers to plow under green manure crops. This improves soil tilth, fertility and organic matter. Yukon farmers have been slow to take advantage of this program but it is hoped that applications will increase in 1992 (contact the Agriculture Branch for more detail).

The education component has focused on seminars and a newsletter "Topsoil" explaining different methods of conserving agricultural soils.

d) On-Farm Demonstration Projects

These projects have demonstrated the viability of producing feed grain. Five one acre plots of oats and barley were established throughout the territory in 1990 and 1991. Results were reported in InFARMation.

e) Soil and Feed Test Database

In 1990 the branch began to develop a database summarizing the results of local soil and feed tests. Although the data base is not fully developed, it is already providing useful information on soil and forage quality in the Yukon. A summary of these results is available in the Yukon Agriculture Research and Demonstration Report.

f) Cooperative Projects

i) Recycling Organics Together Society (ROTS): Community Compost Project
A community compost heap was set up in front of the transportation museum in Whitehorse. The project accepted organic waste from local homes and businesses, then used the compost for landscaping efforts in the city. The Agriculture Branch provided technical support to the project.

ii) City of Whitehorse

In 1991 a small amount of Whitehorse sewage sludge was applied as fertilizer on a local farm. Water and soil testing carried out by the branch showed that the sludge was free of heavy metals and toxins. This project is on-going.

iii) Schmidt Fund

This fund supported a small research project at Country Road Farms in 1991. The project examined the feasibility of using organic methods to reduce pH levels on alkaline soils. The branch tested the soils and arranged for Dr. S. Sparrow of the University of Alaska to visit the site. Copies of the final report are available through the branch.

iv) Agronomic Capability of Indigenous Grasses

The branch continued to provide feed testing services to the Arctic Alpine Seed Company in an effort to determine the agronomic capability of grasses and legumes native to Yukon.

v) Visiting Researchers

Dr. S. Sparrow (University of Alaska) and Dr. E. Sparrow (U.S. Department of Agriculture) toured Yukon farms in the summer of 1991. They were investigating northern agriculture production.

In late 1990 the Yukon Agriculture Branch agrologist joined researchers from Beaverlodge Research Station on their visits to research stations in Alaska.

Two Russian soil scientists spent a week in the Yukon in the summer of 1991. They toured a number of farms and agricultural projects in the company of Agriculture Canada and Yukon Agriculture Branch staff. A dinner arranged in their honour was hosted by the Department of Renewable Resources, the Yukon Agricultural Association and Agriculture Canada. The Russian scientists are expected to make presentations on Russian agriculture at the Circumpolar Agriculture Conference to be held in Whitehorse September, 1992.

3.1.3 Extension Services

Extension services are a major part of the Agriculture Branch's mandate. On-farm and in-office consultations are available to all farmers.

The branch has a large collection of information and education resource material. More than 500 pamphlets, numerous videos and a small but growing library are available for public use. A herbarium of Yukon plants collected during the grazing inventory study and a display of garden insect pests can also be viewed at the office. These collections help Yukon farmers and the general public identify plants and insects.

InFARMAtion, a quarterly newsletter, is produced to keep farmers and others up to date on industry happenings.

In the past two years every staff member has made public presentations of their work. Presentations have been advertised in InFARMAtion and the local media. Articles and reports published in 1990 and 1991 are listed in Appendix III. Through 1990 and 1991 the farmer's market was jointly operated by the Agriculture Branch and the Yukon Agricultural Association. A new site was found for the 1991 season and, after some start up problems, proved to be very successful. The branch will continue to support this venture because it is one of the few outlets for local market gardeners.

Feed, soil and forage testing services continue to be available at no cost. A summary of results was created in 1990 in order to better analyse the data collected over the past five years. Results are available in the research and demonstration report.

Plans continue to be made available for various types of agricultural structures through the Canada Plans Service (CPS). Branch files now contain 200 plans ranging from elk holding facilities to chicken coops.

In the past two years the Agriculture Branch worked with the Yukon Agricultural Association on a number of joint projects: planning the Circumpolar Agriculture Conference for September 1992, producing a Yukon agricultural video, and conducting the Yukon agricultural census.

Branch members sat on a range of local and national committees including the Canadian Forage Council. The branch is now included in all federal-provincial-territorial ministerial conferences and Statistics Canada conferences. Participation in these conferences is giving the Yukon agricultural industry national profile and recognition.

3.1.4. Policy, Regulation and Development

a) Agriculture Policy

After many years of planning and consultation, a Yukon agriculture policy was approved by Cabinet and tabled in the legislature in November, 1991. A first draft of the policy was completed in 1989. After Cabinet review, a second draft was released for public comment in 1990. A policy review committee incorporated public input into the final policy document titled "Agriculture for the 90s: A Yukon Policy". Copies are available through the branch.

b) Animal Health and Protection Legislation

In response to public concerns about the abuse of animals and the spread of contagious diseases the Yukon government released a discussion paper titled "Options for Animal Health and Protection in the Yukon" in November 1991.

The protection issue began in the winter of 1988/89 and 1989/90 when concerns were expressed about inadequate care and feeding practises which may have caused the deaths of some horses. A major issue was the inability of the RCMP to act under the existing Animal Protection Act or the Criminal Code. Interest groups demanded that the existing legislation be strengthened and from this the discussion paper was developed.

The concern over the spread of contagious diseases not covered under the federal legislation was also brought to the attention of the government during this time frame.

Release of the discussion paper was followed by a public meeting held in Whitehorse in December 1991. Additional meetings are scheduled for 1992. Based on public input gathered through these meetings and through comments received at the branch, the existing legislation may be changed or replaced. Copies of this discussion paper are also available at the branch.

c) Interim Game Farming Policy

This temporary policy was slated for review in 1991. A discussion paper was prepared to promote public comment on the policy and to help determine how the industry should be regulated. Public meetings scheduled for 1992 should lead to the development of a new long-term policy.

d) Other Policy and Regulation Updates

- * Pesticides Act - revoked. Pesticide regulations will be developed under the new **Environment Act**
- * Grazing Policy - under review
- * Farmer's Market Guidelines

e) Abattoir

An abattoir feasibility study was completed in 1989. The proposed plant is designed to meet both territorial and federal standards. Through most of 1990 the Yukon Agricultural Association and the branch worked on preliminary plans, equipment lists and site assessments for the abattoir.

In 1991 a favourable location was found for the proposed development and a detailed proposal was submitted for funding. The results of a public survey suggest that 25 percent of Yukon's meat consumption needs could be met by local producers supported by an abattoir. The abattoir project is currently being evaluated for EDA funding and a land use permit.

There have been some public concerns expressed over this project. Industry representatives have touted it as necessary infrastructure while others have problems with its cost and feasibility. While the abattoir seems to have public support, opinions differ on the size, location, cost and type of facility.

3.2 AGRICULTURAL PLANNING AND ADVISORY COMMITTEE

The Agricultural Planning and Advisory Committee (APAC) was created in 1984. It has a mandate to make recommendations to the Minister on any agricultural matter it considers. The committee is chaired by the Yukon Agriculture Association president (or appointee) and vice-chaired by a senior Yukon government official.

APAC met 11 times through 1990 and 1991; once each in Mayo and Haines Junction, twice in Dawson, and seven times in Whitehorse. The committee recommended development of the following programs, projects and services:

1990

Recommended... Contagious diseases/health regulations.
Update See Section 3.1.4

Recommended... Agriculture policy.
Update See Section 3.1.4

Recommended... Prairie Farm Rehabilitation Administration (PFRA) services.
Update The branch has tried to set up a formal agreement with PFRA to ensure its services are available to the Yukon agricultural industry. PFRA is not prepared to resume regular service to the Yukon at this time.

Recommended... Soil Conservation Program.
Update See section 3.1.2

Recommended... Yukon Agriculture Census
Update See Section 8.0

Recommended... Yukon Crop Guide.
Update See Section 4.1

1991

Recommended... Yukon Forage Manual.
Update See Section 3.1.2

Recommended... Circumpolar Agriculture Conference.
Update See Section 4.1

Recommended... Agriculture Video.
Update See Section 4.1

Recommended... Agriculture Policy - Regulations.
Update Work is progressing on amendments to the area development regulations and the agricultural land regulations.

Recommended... Abattoir
Update See Section 3.1.4

3.3 AGRICULTURE CANADA

3.3.1 Research Branch - Yukon Soil Survey Unit

1990

The Soil Survey Unit has been engaged in research, field investigations, public presentations and the development of a new soil conservation program.

A three-year federal-territorial accord on soil conservation was signed in the spring of 1990. The program has three components; research, public awareness and education, and farm conservation incentives.

The Soil Survey Unit started a new research project on soil salinity - one of the Yukon's primary soil conservation concerns (Figure 2). The unit, in conjunction with the Agriculture Branch, also coordinated a symposium on forage production in March 1990. In the winter of 1990 the first issue of a new soil conservation newsletter, Topsoil, was published and distributed.

At the request of the Canadian Parks Service, field investigations were completed in Northern Yukon National Park. A report on landforms and soils of the region was prepared for the Park Management Plan. This was the first time the soils of northern Yukon had been studied and described in detail. Results are available at the Soil Survey Unit office.

The head of the unit spoke about Yukon soils at a number of national and international conferences and meetings. He made presentations on Yukon soil temperature regimes to an international audience in Spokane, Washington; on the Yukon soil mapping program to the US Department of Agriculture in Fairbanks, Alaska, and on agroclimate conditions in the Yukon to an audience in Ottawa.

1991

The second year of the soil conservation accord saw continued research into the yields of forages on saline soils. Four blocks of test plots were successfully established at Mile 11 on the Mayo Road.

Two soil conservation seminars were held in 1991. The first was presented by Dr. Steve Sparrow of the University of Alaska. He talked about legume production. The second seminar was given by Dr. Stuart Hill who discussed sustainable agriculture.

The Whitehorse soil survey began in 1987 was completed in 1991. Soil maps were tested for reliability, summary reports were prepared and the final colour maps were printed. Maps and reports for the Takhini and Carcross valleys will be published in 1992.

In response to the growing need for production and regulation support, the unit head assumed new duties as contact person for the Food Production and Inspection Branch of Agriculture Canada. New duties include reviewing products under the Pesticide Registration Act and general monitoring of imported and exported agricultural products. Questions about federal pesticide regulations, or about federal permits required for food or plant shipments into or out of the territory, can now be directed to the Yukon Office.



Figure 2. Soil Conservation Project

3.3.2 The Agri-Food Development Branch of Agriculture Canada

The Alberta regional office of Agriculture Canada's Agri-Food Development Branch continues to serve the Yukon as well.

During 1990 and 1991, the Agri-food Development Branch worked closely with the Yukon Agricultural Association, the branch and Agriculture Canada's Yukon Soil Survey Unit. The Agri-Food Development Branch, through its Crop Development Fund (CDF), participated with the industry and the Yukon government in a six-year project assessing the commercial potential of agricultural crops in the Yukon. This project was completed in 1991. The Canadian Agri-Food Development Initiative (CAFDI), which includes the CDF, is supporting the Circumpolar Agriculture Conference with a \$60,000 grant. CAFDI is also providing \$15,000 for the development of a crop production manual.

A senior development officer from the Agri-Food Development Branch participates as an observer on the Yukon Agriculture Planning Advisory Committee (APAC) and provides advice on agri-food development issues. The Agri-Food Development Branch also consults with the Department of Indian and Northern Affairs on agri-food matters related to the Canada-Yukon Economic Development Agreement (EDA).

Agriculture Canada is committed to a continuing partnership with producers and the Yukon government in developing the Yukon's agri-food industry.

3.3.3 Prairie Farm Rehabilitation and Administration

The PRFA irrigation team had been a regular visitor to Yukon up until 1987. Because of funding restrictions, only one visit was made in 1988-1989. There were no visits from PRFA in either 1990 or 1991. The Agriculture Branch tried to formalize the status of the PRFA visits with an agreement between the Yukon government and the federal agency. The proposal was rejected at the ministerial level. The future of PFRA assistance in Yukon is now uncertain.

3.4 FARM CREDIT CORPORATION

The Farm Credit Corporation (FCC) was established in 1959 as a crown agency reporting to parliament through the Minister of Agriculture. Its role is to provide financial services to enable Canadian farmers to establish, develop and maintain viable agriculture enterprises.

The FCC helps farmers expand or establish new operations through long range financing. In addition to supporting expanded production in traditional areas such as horticulture, cereals, forages and livestock, the corporation will consider financing new technology and enterprises where economically feasible.

The FCC has approximately \$1,000,000 in loans in the Yukon as of 1991. The average amount of a Yukon loan is \$51,000, or half the amount of an average loan in southern Canada. Yukon agricultural operations are smaller and less capital intensive than those in southern Canada.

3.5 ECONOMIC DEVELOPMENT AGREEMENT

The original Canada/Yukon Economic Development Agreement (EDA) ended in 1989. Since then an interim agreement and a new Renewable Resources sub-agreement have provided additional funds. The new agreement, signed in May of 1991, will provide \$9,000,000 over five years.

EDA funding has been a mixed blessing to the agricultural industry. It has provided many operations with start up funds and has supported some technical advances however producers have expressed their preference for a loan rather than a grant system. The concern is that the Yukon agricultural sector is so small that one large operation of any kind has the potential to saturate the market. With a repayable loan system more producers would be more likely to develop small operations.

On the positive side, many valuable inventories and research projects have been made possible through EDA grants. These projects and the financial data from both successful and non-successful ventures have proven invaluable.

3.5.1 Overview of EDA Projects

a) Native Seed Regeneration - Yukon Department of Renewable Resources

Field plots were set up in the summer of 1991 to conduct revegetation trials with indigenous plants. The trials were based on recommendations from the new manual titled Guidelines for Revegetation/Reclamation in the Yukon. This is a cooperative project of the Department of Renewable Resources, the Department of Community and Transportation Services and the Arctic and Alpine Seed Company.

b) Abattoir Assessment - Yukon Department of Economic Development

See Section 3.1.4

c) Vegetable Growth Chamber - Dakwakada Development Corporation

EDA funds were used to buy new lights for the vegetable growth chamber and to cover operation and maintenance costs for the project. Vegetable production looks promising but is still in the experimental stage.

d) Range Manual - Yukon Department of Renewable Resources

See Section 3.1.2

e) Agriculture Planning - Nacho Nyak Dun

The Nacho Nyak Dun First Nation received financial support for planning an agricultural site in the Mayo area. The First Nation is now drawing up a land development plan based on the results of a community survey and soil tests conducted by the Agriculture Branch during the summer. The final plan is scheduled for release in 1992.

f) Upgrade Soils Map - Agriculture Canada

The Agriculture Canada Soil Survey Unit office set up a contract to bring soil maps for the Carcross Valley up to the standard of those for the Takhini Valley. The Takhini Valley maps were produced in 1987 for the Hootalinqua plan. A series of older maps had been drawn for the Carcross Valley but they lacked the reliability and consistency required for detailed mapping and planning. A contractor conducted field tests, interpreted air photos and revised soil units to produce the higher standard maps.

g) Circumpolar Agriculture Conference - Yukon Agricultural Association

See Section 4.1

h) Yukon Agricultural Census - Yukon Agricultural Association

See Section 4.1

i) Yukon Crop Guide - Yukon Agricultural Association

See Section 4.1

j) Agricultural Video - Yukon Agricultural Association

See Section 4.1

k) Stone Mill Purchase - Alpine Bakery

Alpine Bakery of Whitehorse received EDA funding to purchase a stone mill. This European mill has a grinding capacity of 80 to 100 kg per hour. It will be used to grind local grains. The mill will be set up in mid-1992.

l) Paper Shredder for Pig Bedding - Harold Boehm

Harold Boehm of Faro received EDA funding to offset the costs of buying a paper shredder. He plans on using waste paper to produce the bedding for his pigs. The shredder has just been ordered and should be functional by the summer of 1992.

m) Expansion of Poultry Farm - Yvonne Fradsham and John Schuffles

EDA funds will be used to expand the existing operations of these Whitehorse egg producers. They hope to house more than 2000 birds in a new 1900 square foot building. EDA funds will enable them to construct the new shelter and provide adequate ventilation and heat for the birds.

n) Seed Technology Workshop - Decora Landscaping

The Alberta Department of Agriculture offered a seed technology workshop in November 1990. A representative from Decora Landscaping was able to attend with the help of EDA money. Workshop topics included advancements in seed cleaning technology and the promotion of certified and pedigreed seed. Presentations from manufacturers and a tour of local seed cleaning facilities were also included.

o) Arctic Aviaries - Josie and Tom Burke

EDA funds were used to develop an aviary near Whitehorse. A 16-sided building with two 7 x 20 foot wings houses about 20 species of pheasants. The central portion acts as a hatchery. The aviary is designed as a public viewing facility. Some of the pheasants are endangered species. Birds were obtained from the Vancouver area and include exotic, Himalayan and gray peacocks.

p) Sheep Farm Expansion - David and Sylvia Hackney

One hundred acres of an established sheep farm were cleared and cultivated with EDA assistance. Brome, oats, barley and fescue were seeded to provide feed for more than 100 sheep. EDA money also helped finance the purchase of a pumping system for irrigating the fields.

q) Seminar on Animal Nutrition - Game Growers Association of Yukon

With help from the EDA, an animal nutrition specialist from Alaska gave a presentation in Whitehorse in the fall of 1990. He stressed the importance of quality feeds and the difference between maintenance requirements and those of a working, pregnant or lactating animal. In discussing game farming issues he emphasized the need to provide open water to game animals in the winter.

Table 2. Agricultural Projects Funded by EDA 1990-1991

Project Title	Expenditure
Native Seed Regeneration	11,360
Abattoir Assessment	23,000
Vegetable Growth Chamber	29,522
Range Manual	27,822
Agricultural Planning	8,600
Upgrade Soils Map	5,787
Circumpolar Conference	140,000
Yukon Farm Survey	25,325
Crop Guide	15,000
Agricultural Video	50,500
Stone Mill Purchase	2,700
Paper Shredder	2,456
Poultry	19,000
Seed Technology Workshop	918
Aviary	29,336
Sheep Farm	4,500
Seminar on Animal Nutrition	2,742
TOTAL	398,618

3.5.2 Summary

In 1988 and 1989 EDA provided \$520,177 for 15 projects with an average value of \$34,678. In 1990 and 1991 eighteen projects were approved with an average value of average at \$23,448. EDA seems to be leaning towards more projects of lower value. In fact, if the one large expenditure for the Circumpolar Conference is deleted the average project value for 1990 and 1991 drops to \$15,212.

4.0 PRIVATE AGRICULTURAL INITIATIVES

4.1 YUKON AGRICULTURAL ASSOCIATION

The past two years have been busy for the Yukon Agricultural Association. Changes include an office move to #103-302 Steele Street (668-7663) and an official name change. The former Yukon Livestock and Agricultural Association (YLAA) has become the Yukon Agricultural Association (YAA).

Planning and preparing for the first Circumpolar Agriculture Conference has been a major activity. The conference is slated for September 1992. Representatives from nine jurisdictions have agreed to participate; Canada, United States, Denmark, Finland, Sweden, Norway, Greenland, Iceland and Russia. The conference will focus on information sharing between government and industry and will help to forge links between the northern regions of circumpolar countries. Financial assistance from EDA, Agriculture Canada and the branch have helped the YAA develop plans for this conference.

The YAA has also been involved with a Yukon Agricultural Census. Information gathered in this project will help to identify the role of agriculture in the Yukon economy and the immediate and future needs of the industry. Most of the survey was completed in 1991; the balance will be completed in 1992. The Statistics Branch of the Yukon government is now analyzing the data, the final results will be available in 1992. This project is a cooperative venture of the Statistics Branch, the Agricultural Branch, and the EDA. See Section 8.0.

The Yukon Crop Development Project ran its last year in 1990. The results of this project are available from the YAA office or from the Agriculture Branch. The YAA is currently involved in securing funding to produce a Yukon Crop Guide. This publication will summarize six years of research under the Yukon Crop Development Project and the New Crop Development Project. It will also include the research results of Agriculture Canada's 1019 research station, located near Haines Junction, which closed in the 1960s.

This publication will bring existing knowledge and research together into a producer level guide promoting viable crop varieties and proper agricultural practices. It will also allow for yearly updates. The guide will be available in the fall of 1992.

Another YAA venture is the production of an agricultural video. This video will show the current state of Yukon agriculture and its future potential. It will be used in seminars, training workshops, trade shows, and as a tool for tourism development. It features locations throughout the Yukon and agricultural activity through the seasons. Taping, script writing and music are being provided by Images Unlimited. The video is scheduled for completion by September, 1992 to coincide with the Circumpolar Agriculture Conference. It is financially assisted by EDA and has the cooperation of the branch.

In 1991 the Farmer's Market moved to a new location on Second Avenue. New booths were constructed. The weekly markets between June and September drew many consumers to the fresh vegetables, crafts, clothing and baking.

The YAA has also continued to work with the branch on the proposed abattoir (see Section 3.1.4) and on the contagious diseases issue (see Section 3.1.4).

4.2 4-H YUKON

The 4-H program teaches responsibility and leadership qualities in the equestrian discipline. The program has 25 members and is organized by Mrs. Clara Sharp.

Winter activities include weekly discussions on topics such as nutrition, immunization, first aid, conditioning, trailer safety, pasture maintenance and care of tack. Mr. Cliff Hanna (farrier), Mrs. Madeline Boyd (horse owner), Dr. Wendy Royal (veterinarian), and Ms. Chris Caldwell (artist) were among the guest speakers invited in the past two years.

Summer activities include the summer camp which is the highlight of the year. Trail rides, lessons (see Figure 3), games, showmanship, canoeing and swimming were the major activities. Members of the 4-H program also participated in the annual horse show, clinics, and the "work bees" serving as fund raisers. Funds will be used to buy the new Canadian Equestrian Federation (CEF) approved helmets for members.



Figure 3.

4-H Riding Lesson

4.3 GAME GROWERS ASSOCIATION OF YUKON

The Game Growers Association was formed in 1989. The mandate of the 23-member (1991) group is to promote the game farming industry. The association meets four times each year and acts as a lobby group to government on game farming issues. The association has adopted the Alberta code of ethics for game farming.

In the spring of 1990 the association co-sponsored a Whitehorse animal nutrition seminar by Ken Krieg (livestock specialist from Fairbanks, Alaska). Also in 1990 the president of the association attended the International Game Farming Conference in Edmonton.

During 1991 all the farmed elk in the territory were tested for tuberculosis and brucellosis by the federal veterinarian from Dawson Creek, B.C. All animals tested negative and the territory now enjoys disease-free status. The association and the Agriculture Branch jointly funded a local veterinarian's attendance at a wildlife disease seminar in Saskatoon. The veterinarian returned with valuable information for association members.

Through 1991 the association has been gathering information to respond to the Yukon Fish and Game Association's concerns. A written summary of why the association supports game farming has been sent to interested organizations.

The Midnight Sun Elk Ranch now manages the government elk herd of 25 breeding animals. A record of 10 female and five male calves were born in 1991.

There are now 250 elk, 70 reindeer, 10 musk ox, 10 bison along with goats, sheep, deer, caribou and wild boars being farmed in the Yukon.

4.4 ORGANIC GROWERS ASSOCIATION (YOGA)

This organization was established in 1991. Its goals are to:

- * encourage and promote organic growing practices and sustainable agriculture in the Yukon;
- * research, develop and implement organic growing standards with the aim of supplying Yukon consumers with a "certified" locally grown organic product; and
- * to liaise with other organic grower organizations and with government agencies and serve as a clearing house for industry standards, growing and soil improvement techniques and other relevant information.

5.0 AGRICULTURAL LAND PROGRAMS

5.1 AGRICULTURAL LAND

Agricultural land can be obtained in the Yukon in two ways:

- 1) Limited private sales. Agricultural land is selling for \$500 to \$1500 per acre.
- 2) Land applications. Applicants must:
 - * be 19 years of age or older,
 - * be Canadian citizens, and
 - * have lived in Yukon for one year.

This process takes between 12 and 18 months and is under the jurisdiction of the Yukon Governments Department of Community and Transportation Services.

With the new Agriculture Policy in effect significant changes have been made in the areas of land pricing and with the review process for applications.

The process of land acquisition begins with submitting an application to the Lands Branch for the proposed land. This application must contain some detail of intended use, certify that the applicant will remain a Yukon resident during the life of any agricultural land agreement and certify that a farm development plan, acceptable to the Agriculture Branch, will be submitted within 30 days from the date of application.

The Lands Branch then conducts an internal preliminary review to determine if conflicts exist with land use regulations, previous applications or known native land claims. Renewable Resources provides site suitability and arability; both departments do internal reviews.

The Agriculture Branch is then responsible for assisting the applicant with an agriculture management review. The proposed piece of land is next checked for agricultural arability; it is mapped for soil suitability, topography, access to water, location and other concerns. This department also looks at potential fisheries, habitat, wildlife, environmental or recreational conflicts. Once this is done the Agriculture Land Application Review Committee (ALARC) presents its departmental position to the Lands Branch on the specific application.

It is then reviewed by the Land Application Review Committee (LARC) which determines whether the applicant meets agricultural policy requirements and sound land management principles. If given a favourable review at this level it is forwarded to any First Nations whose traditional area is impacted. Only then is an agreement for sale issued and a farm development agreement, based on the review, drawn up. If the land is federally administrated, an order in council is required.

It is then released to the applicant once a land value is attached. With this figure in mind the applicant is then required to meet all agreement of sale stipulations which include development of the property. "In the case of a sale, for every two dollars of approved development work done, one dollar of the difference between the market value of the land, and the Yukon government's development cost, may be forgiven. None of the developmnet costs may be forgiven;" (Agriculture for the 90's: A Yukon Policy). At the end of a five year period, providing the applicant has met all requirements, the agreement for sale can be transfered and title given.

Some of the current dispositions were the result of the transfer of federal agriculture leases to the Yukon Government for their administration. The federal government no longer disposes of land in the territory for the purpose of agriculture or grazing.

The status (December 1991) of agricultural land dispositions is as follows:

Order in Council Requests	26
Agricultural Leases	3
Residential/Agricultural Leases	1
Market Garden Leases	2
Agreements For Sale	79
Titled	82
Expired	4
Terminated	9
Converted Agricultural Leases	6

5.2 GRAZING AGREEMENTS

The process for obtaining a grazing agreement is similar to that of agriculture land. Individuals submit applications for grazing land to the Lands Branch. Here the applications are screened for conflicts such as existing applications, known land claims or land tenure.

The application is then presented to LARC for pre-screening. If there are no major conflicts, LARC will recommend that the Agriculture Branch proceed with the field work. When it has been determined that there is suitable grazing capability a Grazing Management Plan is prepared. This incorporates all aspects of managing the land, and is essentially the Renewable Resources' departmental recommendation for the management of this particular parcel for grazing purposes. This is finalized at ALARC then submitted to LARC. Subsequent to a favourable review with LARC and the First Nations the grazing agreement may be offerd to the applicant. This agreement includes the terms and conditions prescribed by Renewable Resources in the Grazing Management Plan.

As of December of 1991, 41 grazing leases are in effect in the Yukon.



Figure 4. A Typical Yukon Grazing Lease

5.2.1 Range Improvement

In May, 1991 a Memorandum of Understanding (MOU) was signed between the departments of Community and Transportation Services and Renewable Resources. It stated that range improvement work was to be initiated on a five year trial basis with three demonstration projects each year.

"Range improvement" was defined to mean any activity that will improve the productivity and grazing capacity of grazing land for domestic livestock and wildlife. Methods of improvement were detailed in the MOU.

Only grazing agreement holders may apply for approval of range improvement projects. Applications are submitted to the Agriculture Branch where they are screened and forwarded to ALARC for review. If ALARC approves the application it is reviewed by the Lands Branch which may issue an interim range improvement agreement.

Monitoring will involve the evaluation of the improvement program, ensuring the agreement holder adheres to the terms and conditions of their improvement program and in the production of a summary report.

Spring of 1992 will see the first of the range improvement proposals put into place.

6.0 MARKETING

6.1 BACKGROUND

Agricultural viability is determined by a simple rule: each commodity produced must be able to compete successfully in the marketplace. Northern agriculture is no exception.

People unfamiliar with the North often ask, "Will anything grow here?" The answer is "Yes!" Next we are asked "If you can grow crops here, cannot agriculture develop?" The answer is "Maybe." The economy minded people ask, "Is agriculture in the north a profitable proposition?" The answer is "Yes and No." The most pertinent question is, "Does the Yukon need agriculture?" The answer is likely "Yes" from those of us who must buy agricultural commodities produced elsewhere and who know the Yukon's potential to produce agriculturally. The answer to this same question is perhaps "No" from those who live in southern Canada and do not know the potential of Northern Canada. (Tsaukamoto, undated).

There is little question that the Yukon is capable of producing a wide variety of agricultural products. This has been demonstrated many times in the past. Reports indicate that vegetables, forages, grains and livestock have been successfully grown and produced in locations ranging from Dawson, Mayo and Haines Junction to Whitehorse. Recent experiments with demonstration crops confirm these observations (Hodgson, 1990).

During the eighties a great deal of this support was put in place which will enable the nineties to see a gradual switch in focus from production to marketing. This will allow the industry to realize its goal of reducing imported foodstuffs by 25 percent.

Our Niche

The Yukon agriculture industry needs to concentrate more on what it has, and less on what it does not. The availability of wild berries, honey and wild meat are unique and should be factored into any new marketing scheme.

A new and strong direction in Yukon agriculture is driven by the desire of Yukon growers to produce products that are pesticide residue free. The Yukon Organic Growers Association is committed to the promotion of this goal. The industry can provide the "organic" products that are in high demand in a time when so much of what we consume is grown with chemical support.

Another area that local farmers can tap into is the demand for fresh produce. By the time most of our foodstuffs arrive here they are travel weary and lack the appeal of local fresh products. Consumers are willing to pay more for fresh produce but producers should be careful not to exploit this edge by over pricing.

The Yukon will always suffer from economies of scale because of its low population (30,000). The potential for "dumping" southern Canada products also exists. "Northern Alberta Dairy Pool and Palm Dairies have indicated that both will retaliate possibly in the form of price undercutting, should a third supplier of milk and/or dairy products enter the market place. In this event it is unlikely that a local dairy could survive..." (p 26. Hodgson, 1990). This kind of reaction is to be expected in the supply controlled environment that is so pervasive in southern Canada.

6.2 WHAT WE HAVE

In the 1980s energies were focused on production and infrastructure. A great deal of work was initiated by both government and industry.

a) Production

In the mid-1980s the Agriculture Branch focused its research and development energies on a four-year forage productivity study (M.A.Ames, 1988, 1989), a study of cultural adaptations for horticultural crops (M.A.Ames, 1987) and the development of a test plot site for cereals, forages and horticultural crops (M.A.Ames, 1988, 1989).

The New Crop Development Project (NCDP) was a three-year program (1985 to 1987) evaluating cereals, forages and horticultural crops. As a result of this program, varietal recommendations are available for six regions in the Yukon (Bisset, 1986, 1987). In 1988 the Yukon Crop Development Project (YCDP) replaced the NCDP and expanded into commercial trials and cultural adaptations to increase horticultural yields (Bisset, 1988, 1989, 1990). These projects were initiated by the YAA (then YLAA) and supported with financial assistance from Agriculture Canada, the Economic Development Agreement and the Agriculture Branch.

b) Infrastructure

The Agriculture Branch was responsible for establishing some of the necessary infrastructure during the 1980s. Working relationships were established with the PFRA and the Agri-food Development Branch of Agriculture Canada. Contacts

were made with the Forage Council on which the Agriculture Branch now holds a permanent seat. A linkage was also established with FCC making financial planning and assistance easier for farmers. The Economic Development Agreement was signed and later renewed providing Yukon's producers with a source of funding for innovative projects (see section 3.5). Plans for a seed-cleaning operation were also started.

In November 1991 the agriculture policy was tabled in the Yukon legislature. Many other policies, acts and regulations were also initiated, redrafted or completed. The industry now has a comprehensive legislative structure under which to grow.

Numerous publications were produced including the quarterly newsletter, InFARmation. A list of publications can be found in Yukon Agriculture - State of the Industry 1988-1989 and at the end of this report. A soil and forage databank was established; samples were analyzed and the results were summarized in the 1990 Yukon Agricultural Research and Demonstration Report.

6.3 WHAT WE NEED

Now that some of the infrastructure is in place the industry must focus on marketing, increased production and on continued infrastructure development. The results of the Yukon 2000 public consultation process suggest that public awareness, development of local and export markets, adequate storage facilities and a co-operative marketing strategy are the keys to industry development.

6.4 HOW TO GET THERE

a) Public Awareness

The media, both locally and nationally, are becoming more and more aware of the agricultural industry in the Yukon. Newspaper coverage has been constant (section 7.0) and radio stations carry stories on new developments and farmer profiles. The upcoming Circumpolar Agriculture Conference assures us of a national spotlight for promoting Yukon agriculture as a developing industry. The new agriculture video will also be invaluable as an advertising tool for the industry.

It has been suggested that an agricultural column should be written for a local newspaper. The column could cover current developments, human interest stories and the latest research and development results. Since the focus would be on increasing local knowledge of the industry, articles would have to be aimed at the general public rather than the agriculturalists.

Many local stores carry Yukon produce. A separate section for local produce with highly visible advertising would be helpful. Products must be recognizable as Yukon grown. Increased advertising of locally grown hay and green feed should be featured in the papers and in InFARMation. It is understood that much of this product is sold before the harvest or by word of mouth. However, the benefits realized by increasing public awareness could be reaped in future years.

The Yukon grown symbol, designed by Bryon Marks- Produce Manager for Super Valu, (Figure 5) should be more widely used.

It has also been suggested that "The Unique Resource", an up to date synopsis of the industry, should be included in tourist information packages. Linking the agricultural industry with these tourist packages could provide advantages for both tourism and agriculture industries. Many visitors are either farmers or have a farm background. These are the people who are interested in seeing what the Yukon industry has to offer. They may or may not buy the product; either way they will take the message home -- agriculture is alive and well in Yukon.

Access to a site where people could see various crops would also increase public awareness of the industry. Public field days were common with the NCDP, YCDP and with the agricultural test plots in years past. Perhaps they should be revived along with industry tours during the growing and tourist season.



Figure 5. Yukon Grown Symbol

b) Development of Local and Export Markets

Local markets are the key to industry development. With these markets in place producer confidence will grow and expansion into export markets will be the next logical step.

Local marketing is driven by word of mouth. The Farmer's Market, which began in 1984 and is now located near a large shopping mall, has been a regular outlet for many products. This market has been successful and should continue but with a more vigorous advertising campaign. This would see more producers, a greater range of products and consequently an increase in consumers at the stands. It is only in the last few years that it has run weekly so now that it is an established outlet it is anticipated that both production and consumption will increase.

Local markets for livestock will depend on the development of the proposed abattoir. It will serve as a catalyst to the industry, particularly the livestock and feed producing sectors.

A Yukon agricultural fair has been suggested as another marketing aid. Setting up a fair would require the combined efforts of municipal and territorial governments, producers, industry associations and community groups. The fair could attract visitors and residents.

Currently only hay, honey and antler velvet are exported in any appreciable quantity. The largest markets are Alaska and Korea. The Asian market has been cited for increased export of game products.

c) Storage and Infrastructure

i) Storage

A vegetable storage facility is essential for promoting the year-round availability of locally grown products. Studies completed in the 1980s focused on the feasibility of a storage facility linked with a vegetable cooperative. As the cooperative no longer seems a likely option, an independent vegetable storage facility should be looked into.

ii) Infrastructure

The proposed abattoir will lead to increased livestock production in the Yukon. With an abattoir in place, the forage and grain sectors will also expand. The main deterrents to the development of these sectors are lack of markets and an abattoir; the two go hand-in-hand.

d) Marketing Strategy

Developing a marketing strategy which will take us into the nineties and allow for industry growth is a necessity. The focus should be on both local marketing and potential export.

Much of the information needed to develop a strategy is already available. There is an up-to-date summary of all printed information on the industry (Hodgson, 1990). The results of a recent agricultural census including current production levels (section 8.0) and estimates of Yukon consumption trends are also available. A detailed marketing strategy should be developed with the help of an agricultural economist and a steering committee made up of producers, retail people, industry representatives and government.

It is important to that this strategy be developed in and for Yukon.

6.5 SUMMARY

Yukon produced agricultural products will not only reduce the amount of imported foodstuffs, but will help the Yukon become a multi-based economy. There are problems in the south: erosion of valuable topsoils, the expansion of cities onto prime agricultural land, consumer fears of pesticide contamination, excessive dependence on monoculture, the destruction of wildlife species and habitat and a multitude of other factors that have resulted in serious questions being raised about how Canada's agricultural lands have been managed (Smythe, 1988).

The key requirements for Yukon agricultural development are increased public awareness, more local and export marketing, continued infrastructure development, and a professional marketing strategy.

Once these components are in place the industry should be well on its way towards reducing imported foodstuffs by 25 percent.

7.0 A MEDIA PERSPECTIVE

Media coverage of the industry has been fairly constant since 1988. A total of 73 newspaper articles and radio stories focused on agriculture in 1988 and 1989. Sixty-two newspaper articles and radio items gave the public a chance to read and hear the latest news on the industry in 1991 and 1992.

Table 3 summarizes media coverage over the past two years. Trends are fairly consistent over this period. The chief topic in 1990 was animal welfare although policy development and human interest stories were also well covered. In 1991 the abattoir proposal received the greatest amount of coverage. The upcoming Circumpolar Agriculture Conference and research developments also received a lot of media interest.

Table 3. Media Coverage of Yukon Agriculture*

Topic	Year		
	1990	1991	Total
Abattoir	2	11	13
Agriculture Outside Yukon	0	2	2
Animal Welfare	33	2	35
Circumpolar	2	5	7
Game Farming	0	1	1
Human Interest	3	4	7
New Enterprises	1	5	6
Policy	4	2	6
Research	2	6	8
Sustainable Development	0	1	1

* These figures do not add up to 62 because some articles covered several topics.

The main issues have already been dealt with in some detail elsewhere in this report. For an update on the abattoir, animal welfare and the agriculture policy see Section 3.1.4; information on the circumpolar conference can be found in Section 4.1.

It is interesting to observe how the issues have changed since the branch began documenting media coverage. In 1988 policy development, planning and land issues received the greatest amount of coverage. In 1989 animal welfare and the recruitment of a large animal veterinarian got most of the attention. Animal welfare issues continued to dominate in 1990 along with policy development. In 1991 the proposed abattoir and the Circumpolar Agriculture Conference were the issues of greatest interest.

8.0 AGRICULTURAL CENSUS SUMMARY

In 1991 the federal agricultural census was again conducted through out Canada. Here, a farm is defined as: " an agricultural holding that produces an agricultural product intended for sale." This census is done every five years and is compulsory. Results have been received and are summarized below.

The Yukon census, sponsored by the Yukon Agricultural Association, is not yet complete. To date there have been 165 producers surveyed, 50 still remain. This survey has been conducted solely through personal interviews but unlike the federal survey it is not compulsory. A summary will be available by late 1992. It is hoped that the winter of 1992-93 will see an integration of this information with the federal census cumulating in an agricultural data publication.

8.1 FEDERAL CENSUS RESULTS

Table 4 compares figures produced in the 1986 federal census to those produced by the 1991 census.

Table 4. 1986 and 1991 Federal Agriculture Census Highlights

	1986	1991
Total number of farms	38	113
Total area of farms	14,444	20,421 acres
Area owned	-	8,160 acres
Area leased	-	12,133 acres
Total of field crops	1,330	3,332 acres
Total vegetables	9	37 acres
Total area under plastic	19,380	45,022 ft ²
Irrigated	320	420
Total chickens	3,522	4,658
Total cattle	132	143
Total game	-	352
Total farm capital	5,731,019	23,212,449 dollars
Value of land and buildings	4,193,300	19,506,240 dollars
Total gross farm receipts	-	1,980,756 dollars

Some of the categories listed in the 1991 census were not covered in the 1986 one, therefore a comparison in some areas is not possible. Overall the industry has grown tremendously and shows a 197 percent increase in the number of farms and a 41 percent increase in area under cultivation. Greenhousing also shows a significant increase of 132 percent over the 1986 figures.

The gross farm receipts of almost two million dollars breaks down to nearly \$18,000 per farm. Although the 1986 federal census did not provide a similar gross dollar value of the industry the figure, as estimated by the territorial survey conducted by the Yukon Agricultural Association in that same year, was considerably lower than this 1991 figure. It is therefore fair to say that the industry has grown in total gross dollar farm receipts as well.

Specific crops show increased acreages too. Potato production has grown from 16 to 33 acres in the past five years. There have also been some new ventures since then. Two farms now report growing forages for seed and three report tree fruit production. There has also been a substantial increase in game farming.

The 1991 census lists two categories for fertilizer use; commercial and manure. These categories total over 2000 acres receiving fertilizer. Only three farms report the use of herbicides and one lists insecticide use.

The census information is an invaluable tool with which to measure the development of the industry. It is rewarding to see its growth. The results of the Yukon Agriculture Census should expand the picture and will be available in the fall of 1992.

LITERATURE CITED

- Agriculture Branch, Department of Renewable Resources, Government of Yukon.
InFARMatIon (A Quarterly Bulletin)
- Ames, M.A. 1987. Response of Potatoes and Broccoli to Fertilizer Treatments, Row Covers and Mulches. Agriculture Branch, Department of Renewable Resources, Government of Yukon.
- _____. 1988. Response of Bromegrass to Various Fertilizer Levels. Agriculture Branch, Department of Renewable Resources, Government of Yukon.
- _____. 1989. Response of Bromegrass to Various Fertilizer Levels. Agriculture Branch, Department of Renewable Resources, Government of Yukon.
- _____. 1988. Yukon Agricultural Test Plots Annual Report. Agriculture Branch Report Series No. 2. Department of Renewable Resources, Government of Yukon.
- _____. 1989. Yukon Agricultural Test Plots Annual Report. Agriculture Branch Report Series No. 3. Department of Renewable Resources, Government of Yukon.
- Beckman, D.B., D.W.Murray and C.A.S. Smith. 1990. Yukon Agriculture 1988-1989: State of the Industry. Agriculture Development Series Report No. 7. Agriculture Canada, Land Resource Research Centre, Whitehorse, Yukon Territory.
- Bisset, K. 1986. New Crop Development Program - 1986 Field Season Report. Yukon Livestock and Agriculture Association. Agriculture Canada, Government of Yukon.
- _____. 1987. New Crop Development Program - 1987 Field Season Report. Yukon Livestock and Agriculture Association. Agriculture Canada, Government of Yukon.
- _____. 1988. Yukon Crop Development Program - 1988 Field Season Report. Yukon Livestock and Agriculture Association. Agriculture Canada, Government of Yukon.
- _____. 1989. New Crop Development Program - 1989 Field Season Report. Yukon Livestock and Agriculture Association. Agriculture Canada, Government of Yukon.
- _____. 1990. New Crop Development Program - 1990 Field Season Report. Yukon Livestock and Agriculture Association. Agriculture Canada, Government of Yukon.
- Department of Renewable Resources, Government of Yukon. 1991.
Agriculture For The 90's: A Yukon Policy.

- Department of Renewable Resources, Government of Yukon. (Unpublished)
 Guidelines for Reclamation/Revegetation in the Yukon.
- Department of Renewable Resources, Government of Yukon, 1991. Options for
Animal Health and Protection in the Yukon.
- Hodgson, J.A. 1990. Compilation of Sectoral Information of Yukon
Agriculture. Agriculture Branch, Department of Renewable Resources,
Government of Yukon.
- Smyth, S. 1988. The Administration of Agriculture in Canada's North: The
Yukon Experience. The Northern Review Vol. 2: 31-42.
- Tsukamoto, J. Undated. Photocopy. Agriculture Branch Files.
- White, M.P. 1990. Yukon Agricultural Research and Demonstration Report.
Agriculture Branch, Department of Renewable Resources, Government of
Yukon.
- _____. 1991. Yukon Agricultural Research and Demonstration Report.
Agriculture Branch, Department of Renewable Resources, Government of
Yukon.

Appendix 1

Monthly Weather Review 1990

January

Cold arctic air moved into the southern Yukon twice in January bringing extremely cold temperatures. Average temperatures in the Whitehorse, Burwash, Mayo, Carcross and Ross River areas were three degrees above normal; average temperature in the Atlin area was seven degrees above normal. The northern regions and the Swift River area were four degrees cooler. Precipitation varied.

February

February 1990 was the third coldest February on record. In fact, it was mid-month before temperatures rose above -20 C. There was three hours less sunshine than normal for the month. Precipitation was above normal.

March

This month began with many stations throughout south and central Yukon experiencing temperatures in the plus seven to ten degree range. The daily maximum record set in 1977 was broken by a new temperature of 6.6 degrees in Whitehorse area. Precipitation was light and there were 69 more hours of bright sunlight than normal.

April

By the end of April all stations had recorded maximum temperatures above freezing. Precipitation was generally less than 50% of normal throughout the territory.

May

All stations experienced frost and double digit temperatures. Temperatures were one to four degrees above normal throughout the territory. The coolest region was south of Whitehorse.

June

Heavy precipitation combined with late spring runoff to cause river levels to rise. Washouts were possible so watches were placed on most roads in southern Yukon. Both the Whitehorse area and Eagle Plains had below normal temperatures. Whitehorse had almost twice the normal number of days with rain.

July

The month varied little from the norm. Central and northern Yukon started out warm and dry while southern Yukon was cool and damp. Although most stations experienced a record breaking stretch of hot weather around mid-month, by late July daily maximum temperatures dipped well below normals.

August

Maximum temperatures peaked in mid-month with readings in the high twenties or low thirties. By the end of August overnight lows had sunk below freezing in most locations. This month had above normal mean temperatures in the Whitehorse area. Haines Junction reached a high of 32 degrees. Monthly precipitation throughout the Yukon was recorded as rain.

September

September in Whitehorse was generally warmer, a little drier and quite a bit windier than normal. In the rest of the Yukon temperatures ranged between one degree below to three degrees above normal. Strong winds developed over southwestern Yukon in late September, with gusts of up to 60 km/hr.

October

Average temperatures were three degrees above normal in the northern Yukon and two to three degrees below normal in the south. A mix of rain and snow fell throughout the month.

November

Temperatures remained below freezing through November with a maximum low of -38 C late in the month. There was heavy snow fall as well. In the north, new temperature records were set as winter set in. There were just over six hours of sunlight in the north.

December

Despite the wild fluctuations in temperatures, December averaged out near normal. In Whitehorse a reading of -41 was recorded. At the end of the month a record 15 cm of snow fell in a 24 hour period. Temperatures in the minus fifties were recorded in the north and 24 cold wave warnings were issued.

Table 5 1990 Rounded Average Monthly Temperature (degrees C)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Whitehorse	-21	-21	-4	3	8	12	15	14	9	-1	-19	-18
Dawson	-30	-33	-10	2	10	14	16	13	7	-5	-27	-28
Burwash	-23	-26	-8	1	7	12	14	12	6	-6	-24	-21
Watson Lake	-24	-22	-6	1	8	13	16	14	10	-3	-22	-25
Old Crow	-35	-39	-17	-8	6	13	16	12	3	-8	-28	-32

Table 6 1990 Rounded Average Monthly Precipitation (mm)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Whitehorse	11	18	5	2	34	47	16	10	24	18	22	33
Dawson	36	26	12	3	47	36	64	59	61	33	18	30
Burwash	9	13	11	19	29	77	28	34	30	16	19	16
Watson Lake	28	25	1	6	54	73	46	19	37	38	34	41
Old Crow	16	13	14	3	4	31	22	21	23	20	28	13

Appendix 11

Monthly Weather Review 1991

January

Bitterly cold temperatures at the beginning of the month gave way to unseasonable warmth at month's end. Precipitation levels were average but certain areas received record amounts.

February

February was another extremely warm month; the seventh warmest February on record. Precipitation levels were normal. Skies were cloudy with 10 hours less sunlight than normal. In the north a series of pacific disturbances brought south winds and temperatures well above normal in late February.

March

Temperatures and precipitation in the far north were well above average. In the southern border area temperatures were near to below average and precipitation was well below normal for the month. There were 10 more hours of sunlight than normal.

April

April was very dry in 1991 with most places reporting less than 30 percent of normal precipitation. Warm Pacific air generally entered the Yukon near Carcross then spread northward as far as the Eagle Plains area.

May

All areas reported above normal temperatures with Carcross being the coolest at 0.6 C above normal. Most other areas reported temperatures one to two degree above normal. North of the Ogilvies hot temperatures and lots of rain were the rule. There were 41 hours of sunshine more than is usually experienced in this month.

June

June temperatures were above average but no records were broken. An additional 31 hours of sunlight were experienced in the Whitehorse area. Precipitation levels were slightly above normal.

July

Weather in the Whitehorse area was cool, wet and grey throughout July. Two records were set. The monthly average temperature was almost one degree below normal. Rain fell on three days more than normal. The far north was cool and dry while central Yukon was warm and dry.

August

Below normal temperatures and above normal precipitation set records in the Whitehorse area. The month also experienced a record minimum amount of sunshine. In the north the weather pattern continued and cool moist air dominated most of the area.

September

For the third month in a row records were broken for minimum amounts of sunshine and maximum precipitation levels. Generally, the month was wetter and warmer for both Whitehorse and the north.

October

Again, the hours of sunshine were low. The temperatures were also below normal but at least the precipitation fell as rain rather than snow. Temperatures in the north were two to four degrees above average for the month. Most locations received more precipitation than normal.

November

November was cool with more snow and less sunshine than past Novembers. Snow fell on 16 days, four days more than normal. Precipitation levels were the second highest on record. In the north the month was cold but generally clear.

December

Deep snow and mild temperatures were experienced in Whitehorse. More than 18 cm of snow fell in one 24 hour period but no records were broken. There were only 12 hours of sunshine in the month. Temperatures in the north were four degrees below normal as they were not protected by the blanket of cloud producing snow.

Table 7

1991 Rounded Average Monthly Temperatures (degrees C)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Whitehorse	-19	-8	-7	3	8	13	13	12	8	-2	-9	-11
Dawson	-26	-20	-12	2	9	14	15	11	8	-7	-18	-26
Burwash	-24	-16	-11	0	7	11	12	9	-	-5	-16	-18
Watson Lake	-25	-13	-9	2	9	14	14	12	8	-4	-16	-18
Old Crow	-27	-28	-22	-7	8	12	12	9	5	-9	-27	-31

Table 8

1991 Rounded Average Monthly Precipitation (mm)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Whitehorse	18	14	10	2	11	36	57	70	37	39	38	39
Dawson	18	22	20	1	14	22	57	72	50	23	32	19
Burwash	5	7	10	3	8	66	85	39	-	27	23	14
Watson Lake	12	20	6	8	30	45	69	64	61	75	58	66
Old Crow	19	10	15	3	20	32	66	46	37	23	11	9

Appendix III

Publications on Yukon Agriculture in 1990 and 1991

RESEARCH

Bailey, A., Willoughby, M. and Johansen, R.L. 1992. Management of Yukon Rangelands. Agriculture Branch, Renewable Resources, Government of Yukon.

Beckman, D. B., Murray, D.M. and Smith, C.A.S. 1990. Yukon Agriculture: State of the Industry 1988-1989. Agric Dev. Series Rep No. 7 LRRC, Agriculture Canada, Whitehorse, YT 41pp.

Risset, K. 1990. Yukon Crop Development Program - 1990 Field Season Report. Yukon Agricultural Association, Agriculture Branch, Renewable Resources, Government of Yukon.

Hodgson, J.A. 1990. Compilation of Sectoral Information on Yukon Agriculture - Review. Agriculture Branch, Renewable Resources, Government of Yukon.

Smith, C.A.S., 1990. Nature of the Cryic Thermal Regime of Agricultural Soils in the Yukon Territory, Canada. in Proceedings International Symposium on Frozen Soil Impacts on Agriculture, Range and Forest Lands. K.R. Cooley, ed. U.S. Army Cold Regions Research and Engineering Laboratory (CRREL) Special Report 90-1. 911-20.

Smith, S. 1991. Some Myths about Yukon Soil in Another Whole Moose Catalogue p.87. Lost Moose Publishing.

White, M. 1990. Yukon Agricultural Research and Demonstration Report. Agriculture Branch, Renewable Resources, Government of Yukon.

_____. 1991. Yukon Agricultural Research and Demonstration Report. Agriculture Branch, Renewable Resources, Government of Yukon.

White, M.P. and Smith, C.A. S. 1990. Assessing Climate for Northern Agriculture. In Proceedings of the 4th Northern Conference on Climate Change. Atmospheric Environment Service, Environment Canada, Downsview ON.

MISCELLANEOUS

Agriculture Branch, Renewable Resources, Government of Yukon. InFARMAtion (Quarterly Bulletin). Compiled and edited by M.P. White.

Hutchison, A. 1990. Yukon Agriculture Directory. 1990.

Wilkinson H. and Smith, S. 1991 Topsoil - Yukon soil conservation newsletter. Agriculture Canada and Yukon Department of Renewable Resource, Whitehorse, 15.8p.

APPENDIX IV

Yukon Agricultural Contacts

- 1) Yukon Agriculture
Box 2703
Whitehorse, Yukon
Y1A 2C6
Phone (403) 667-5838
Fax (403) 668-3955
- 2) Agriculture Canada
Box 2703
Whitehorse, Yukon
Y1A 2C6
Phone (403) 667-5272
Fax (403) 668-3955
- 2) Yukon Agricultural Association
Room 103-302 Steele Street
Whitehorse, Yukon
Y1A 2C5
Phone (403) 668-7663
Fax (403) 667-4595
- 3) Yukon 4-H
Clara Sharp
R.R.1, Site 20, Comp 31
Whitehorse, Yukon
Y1A 4Z6
(403) 668-4965
- 4) Game Growers Association of Yukon
Shirley Ford
R.R.2, Site 19, Comp 14,
Whitehorse, Yukon
Y1A 5A5
Phone (403) 633-2922
Fax (403) 633-2425
- 5) Yukon Organic Growers Association
Chris Scherbarth
R.R.1, Site 20, Comp 60
Whitehorse, Yukon
Y1A 4Z6
Phone (403) 633-5884

